

CCD-BASED BIOCHIP READER

ABSTRACT OF THE DISCLOSURE

A CCD-based biochip reader includes a light source for emitting light beams, a collimating lens for converting the light beams into wide parallel rays of light, passing said wide parallel rays of light through a biochip and exciting fluorescence from fluorescent targets on the biochip, a focusing lens for focusing the fluorescence, a filter for filtering out said parallel rays of light, and a charge-coupled device camera for generating images from said fluorescence. For recording intensity of the fluorescence from the fluorescent targets, images of the charge-coupled device camera is converted into digital data through an image converting device. Wide parallel laser beams are produced by the laser and through the collimating lens, and excite all samples on the biochip with high efficiency at the same time. In addition, time for analysis is saved when fluorescent images of a large area on biochips are collected and analyzed through the charge-coupled device camera.